

A BLIND MAN'S RIVET-SORTING
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A Blind Man's Rivet-Sorting Device

How he designed, described, and prepared the "drawings" of a Rivet-Sorting Device for submission in his firm's Suggestion Scheme

THE typescript reproduced at the foot of this page is part of a description of a rivet-sorting device submitted by a blind man as a suggestion to his firm. Overleaf is a reproduction of the "drawings" that he made on his typewriter to accompany the text.

A former piano tuner who has been blind from babyhood, this man has been employed on rivet sorting at an aircraft factory. With the idea of speeding up the sorting of rivets according to their length he thought out a simple device

for the job, and now uses it with great rapidity.

One of the most interesting points is the way in which he prepared his drawings of the device for submission under his firm's suggestion scheme. Three illustrations were made, all plan views, and by typing his drawing he ingeniously overcame his difficulty of not being able to draw in the ordinary way. Fig. 1 overleaf shows the layout of two rows of rivet-receiving drawers, each drawer being for rivets of a given length.

The drawers in one row are staggered relatively to those in the other row. It will be seen that the whole of the outline is formed from typewritten characters. The spacing arrangement of the machine enabled him to avoid the necessity for measuring with a scale.

Sorting the rivets is done with the aid of a stepped gauge which is shown in Fig. 2. Here the gauge has been shaded in by typewritten signs, and at each step the size of a rivet has been inserted. The fact that there is no obliteration of the numerals by the other signs is an

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RIVET SORTING DEVICE

this device consists of a chest containing ten drawers arranged all on one level on two rows of five set back to back, the front row being fitted half the width of one drawer to the right of the row behind, so that when viewed from above they would appear as shown in figure one.

A metal gauge-plate is required. This should be the full length of the chest, and cut to the ten sizes three-sixteenths to three-quarters of an inch. (See figure two).

The chest is completely covered in, and the gauge-plate fitted along the centre at the point where the backs of the two rows of drawers meet. Convenient-sized holes are then drilled in the cover, alternately behind and in front of the gauge, so that one hole comes opposite each size, and over each drawer.

Measurements are marked; they may be whatever proves most convenient, provided only that the gauge-plate is cut and fitted in such a way as to cover the sizes over their respective drawers.

The operator places the rivet on the gauge-plate with the head overhanging the straight or positive side, and slides it along until it arrives at the point where the length of the stem of the rivet corresponds to the width of the gauge; the rivet is then propelled through the hole which will be found directly opposite.

The absence of moving parts--An advantage in itself--allows the operator the free use of both hands.

The gauge, having been cut to definite fixed measurements, constitutes a permanent positive check.

The method of measuring the rivet under the head makes it possible for any type of rivet to be sorted by means of this device.

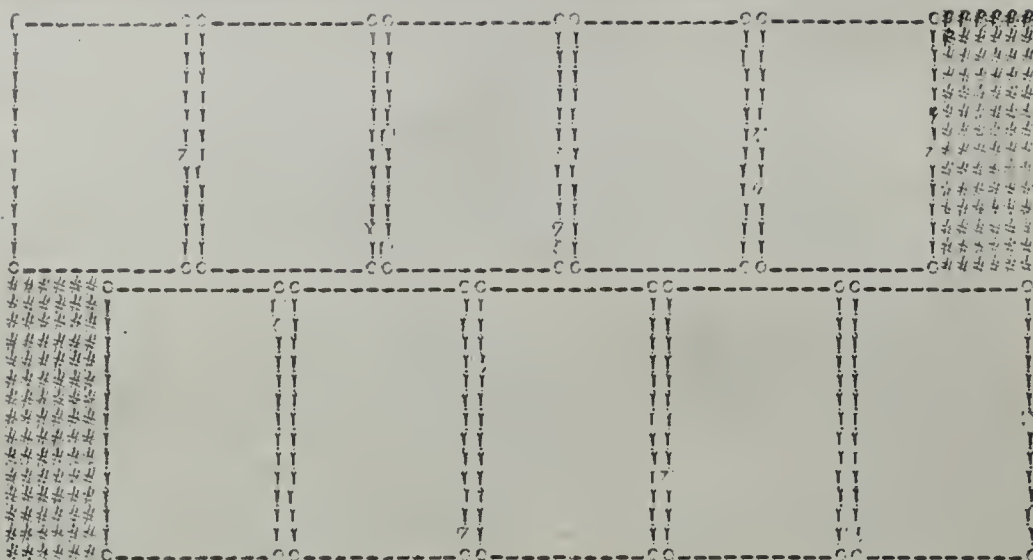


FIGURE 2

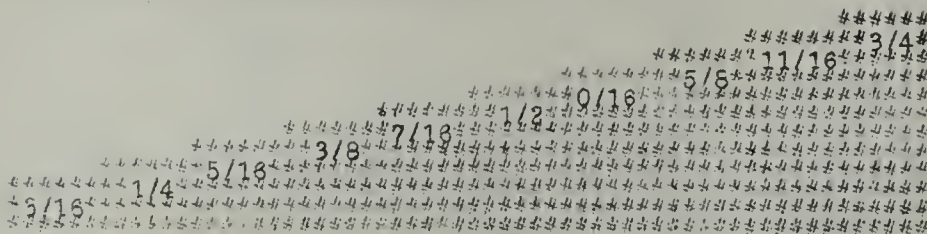
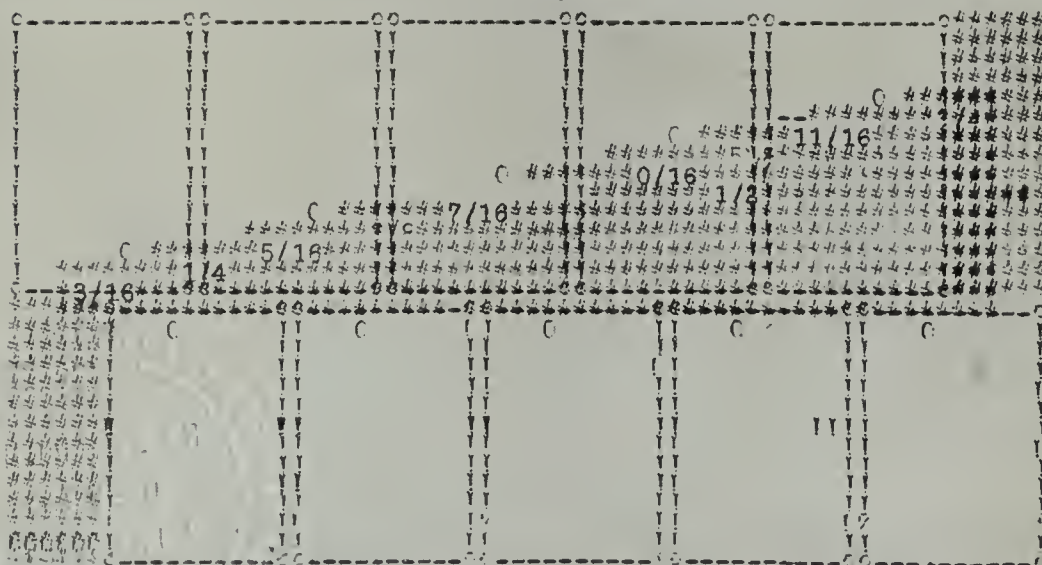


FIGURE 3



indication of the care taken. Fig. 3 is a general arrangement view comprising Fig. 2 superimposed on Fig. 1 to show the relationship between the gauge steps and the drawers.

The use of the device by its blind designer is shown clearly on this page. Two series of holes in the top of the casing coincide with two rows of drawers beneath, and each step in the gauge is in line with one of the holes. The sorter merely applies a rivet to the gauge and locates the step with which its length coincides. He then drops the rivet through the hole that is alongside that step.

In this way the rivets are distributed in the drawers in accordance with their lengths. With a little practice a blind rivet sorter can rapidly match the rivets with the appropriate steps on the gauge. As he can judge by feel the approximate length of a rivet, it is necessary for him to test it at one only or two steps on the gauge.

One very interesting point is that the works where this blind man is employed is on the western outskirts of London, while he lives in north-east London. He travels alone backwards and forwards each day and is one of the best time-keepers at the works.

The illustrations on page 370 show another form of rivet-sorting machine that is used at this works. This apparatus also is intended for the sorting of rivets in accordance with their length and has been adopted in several factories.

THE BLIND RIVET SORTER at work sorting rivets for length on the apparatus he designed for doing the job.

The absence of parts enables him to use both hands all the time for sorting



ON THE OPPOSITE PAGE
REPRODUCTIONS OF THE "DRAWINGS" of the rivet sorting appliance as typed by the blind man.



The base of this appliance is a bank of drawers arranged in two rows, each drawer being intended to receive all the rivets of one length. Arranged over the drawers is an inclined table divided into a number of passages or chutes down which rivets are guided. Each chute terminates in a hole in the table through which a rivet can pass to a drawer.

The chutes are arranged in two groups and each group feeds a row of drawers. Chutes in either group are of progressively increasing length so that their lower openings are over their respective drawers; the rivets placed in any particular chute will thus always find their way into the correct drawer.

The rivets are checked for length by means of a gauge which consists of a fixed bow and a movable bottom anvil. The bottom anvil is slidable in the frame of the machine and is moved upwards a distance determined by the length of a rivet in the gauge, by means of a wedge which the operator slides along beneath it. The anvil is returned by means of a spring.

The table is attached to the sliding wedge so that it can be moved across the apparatus by the wedge. The amount of movement of the table is therefore controlled by the length of the rivet in the gauge and at each position of the table the top of a chute is brought opposite to the gauge; the right chute will always be aligned to receive the rivet.



ANOTHER RIVET SORTING MACHINE being used by a blind man. This type of apparatus is used in several aircraft factories by blind rivet sorters when separating rivets according to their lengths. The rivet is inserted in an adjustable gap gauge. Adjustment of the gauge to the length of a rivet brings one chute of a series into alignment with the gauge, to conduct that rivet to its appropriate container in the body of the apparatus. A hopper for unsorted rivets is between the chutes.

PAMPHLET BINDERS

This is No. 1527

also carried in stock in the following sizes

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1523	9	inches	7	inches	$\frac{3}{4}$ inch	1529	12	inches	10	inches	$\frac{3}{4}$ inch
1524	10	"	7	"	"	1530	12	"	9 $\frac{3}{4}$	"	"
1525	9	"	6	"	"	1531	13	"	10	"	"
1526	8 $\frac{1}{2}$	"	7 $\frac{1}{2}$	"	"	1532	14	"	11	"	"
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1528	11	"	8	"	"						

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